

Radiofrequency Radiation (RFR) Hazards Lesson Guide #12



OBJECTIVES: Upon completion of this topic you will be able to:

- Define Radiofrequency Radiation (RFR).
- Identify various types of equipment emitting RFR.
- Identify RFR Program elements.
- Describe purpose of RFR Program.
- Describe the Navy's policy of RFR

Radiofrequency Radiation (RFR)



- When using radars, communications equipment, and microwave sources there is a potential for personnel exposure to radiofrequency radiation.
- The Navy has a strict radiofrequency radiation safety program to minimize radiation exposure.

BACKGROUND



- **Radar Systems**
- **Communication Systems**
- **Police Radar Guns**
- **Cell Phones, Beepers,
Electronic Modems**

**Radiation is energy
transmitted through
space in the form of
electromagnetic waves
("rays") or sub-atomic
particles.**

Electromagnetic waves include:

- **Radiofrequency radiation**
- **Microwaves**
- **Infrared, visible, and ultraviolet light**
- **X-rays and gamma rays**


Particle Radiation

Includes:



- Alpha particles
- Beta particles
- Neutrons

Radiofrequency/Microwave e can cause:



- Shocks and Burns
- Premature activation of electroexplosive devices in ordnance
- Arcs which could ignite nearby flammable material
- Interference with other electronic equipment

Navy's RFR Program consists of:




- Surveys
- Investigation and reporting RFR exposure incidents
- Training personnel
- Marking RFR hazardous areas

Purpose of the RFR Program



- To identify the hazards
- Post those hazards
- Prevent personnel from exposure
- Monitor potential exposures



*Navy policy is to limit
personnel exposure to
RFR to levels that are
within the Permissible
Exposure Limits (PELs)*

Other RFR Program elements:



- Exposure reporting requirements
- RFR warning signs
- Medical Surveillance Program
- Training

RESPONSIBILITIES



- COMNAVSEASYS COM - lead RFR safety
- Echelon Two - surveys and certifications
- BUMED - Lead for guidance on PELs

RESPONSIBILITIES

- COMMANDING OFFICERS
 - ensure training
 - obtain safety certificates
 - conduct surveys
 - investigate, document, and report incidents



Review and Summary